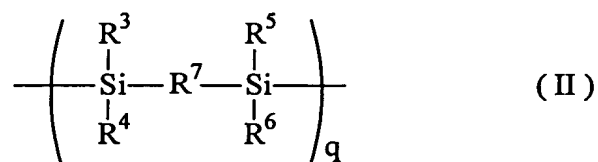
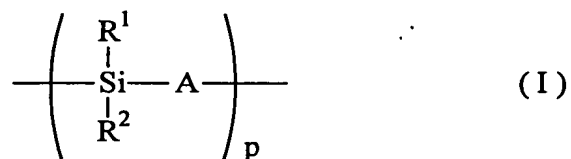


What is claimed is:

1. A silicon-containing copolymer composition, which comprises a silicon-containing copolymer having a number-average molecular weight of 500 to 1,000,000 and containing at least the structural units represented by the following general formulae (I) and (II) and a cross-linking agent:

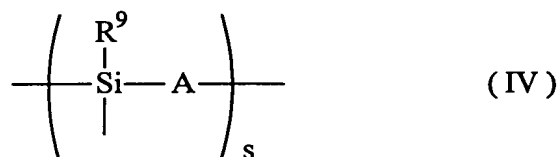
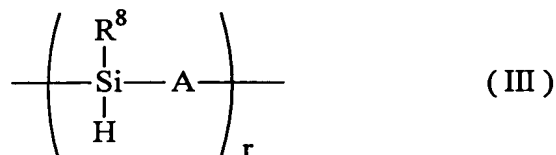


wherein R^1 , R^2 , R^3 , R^4 , R^5 and R^6 each independently represents an alkyl group, an alkenyl group, a cycloalkyl group, an aryl group, an aralkyl group, an alkylamino group, an alkylsilyl group or an alkoxy group, R^7 represents a divalent group, and A represents NH or O, with the order of the structural units (I) and (II) being at random, and the molar ratios p and q thereof respectively being an optional number except for zero, and the proportions of Si-O bond and Si-N bond in the copolymer satisfying the following equation:

$$\text{Si-O}/(\text{Si-N} + \text{Si-O}) = 0.01 \text{ to } 0.99.$$

2. The silicon-containing copolymer composition as

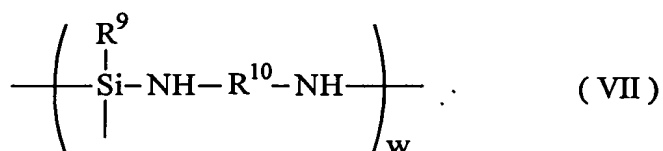
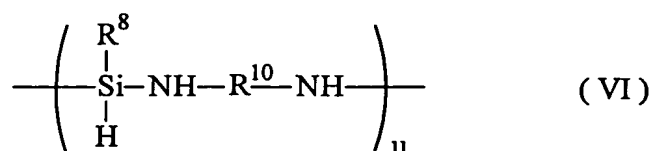
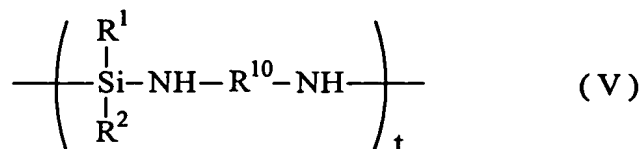
described in claim 1, wherein the silicon-containing copolymer further contains at least one of the structural units represented by the following general formulae (III) and (IV):



wherein R⁸ and R⁹ each independently represents an alkyl group, an alkenyl group, a cycloalkyl group, an aryl group, an aralkyl group, an alkylamino group, an alkylsilyl group or an alkoxy group, and A represents NH or O, with the order of the structural units (I) to (IV) in the polymer being at random, and the molar ratios thereof, p, q, r and s satisfying the following equation:

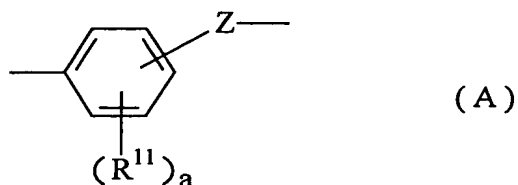
$$q/(p+q+r+s) = 0.01 \text{ to } 0.99.$$

3. The silicon-containing copolymer composition as described in claim 1 or 2, wherein the silicon-containing copolymer further contains at least one of the structural units represented by the following general formulae (V), (VI) and (VII):



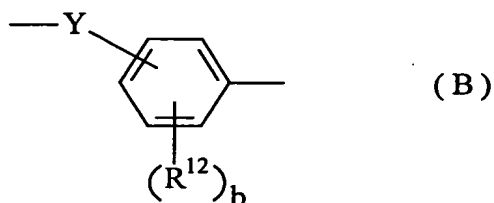
wherein R^1 , R^2 , R^8 and R^9 each independently represents an alkyl group, an alkenyl group, a cycloalkyl group, an aryl group, an aralkyl group, an alkylamino group, an alkylsilyl group or an alkoxy group, R^{10} represents a divalent aromatic group, with the order of the structural units (V) to (VII) in the polymer being at random, and t , u and w respectively being an optional number except for zero.

4. The silicon-containing copolymer composition as described in any one of claims 1 to 3, wherein the divalent aromatic group is an aralkylene group, a naphthylene group or a group represented by the following general formula (A):



wherein R^{11} represents a halogen atom or a lower alkyl group,

a represents an integer of 0 to 4, and Z represents a direct bond or a group represented by the following general formula (B):



wherein R^{12} represents a halogen atom or a lower alkyl group, b represents an integer of 0 to 4, and Y represents a direct bond or a divalent group.

5. The silicon-containing copolymer composition as described in any one of claims 1 to 4, wherein the cross-linking agent is a silicon-containing cross-linking agent.

6. The silicon-containing copolymer composition as described in claim 5, wherein the silicon-containing cross-linking agent is at least one member selected from among tetraisocyanatesilane, triisocyanatesilane, tetraalkoxysilane and trialkoxysilane.

7. The silicon-containing copolymer composition as described in any one of claims 1 to 6, which further contains a cross-linking accelerator.

8. The silicon-containing copolymer composition as described in any one of claims 1 to 4, wherein the cross-linking agent is a compound capable of generating an acid upon being heated.

9. The silicon-containing copolymer composition as described in claim 8, wherein the compound capable of generating an acid upon being heated is a peroxide having a benzene ring or rings.

10. The silicon-containing copolymer composition as described in claim 9, wherein the peroxide is 3,3',4,4'-tetra(t-butylperoxycarbonyl)benzophenone or the derivative thereof.
11. A cross-linked, silicon-containing copolymer formed by heating the silicon-containing copolymer composition described in any one of claims 1 to 10.
12. The cross-linked, silicon-containing copolymer as described in claim 11, wherein the cross-linked silicon-containing copolymer is solvent-soluble.
13. A process for curing a silicon-containing copolymer, which comprises heating the silicon-containing copolymer composition described in any one of claims 1 to 10 at a temperature of 150 °C or higher than that.
14. A process for curing the solvent-soluble, cross-linked, silicon-containing copolymer described in claim 12, which comprises coating a solvent solution of the solvent-soluble, cross-linked, silicon-containing copolymer on a substrate, and heating at a temperature of 150 °C or higher than that.
15. A film or coat formed by heat-curing according to the process described in claim 13 or 14.
16. A plasma display which has the cross-linked cured product of the silicon-containing copolymer composition described in any one of claims 1 to 10 as a dielectric layer, a partition (rib layer) and/or a vacuum sealer.
17. A liquid crystal display which has the cross-linked cured

product of the silicon-containing copolymer composition described in any one of claims 1 to 10 as an interlayer dielectric film and/or an oriented film.